separate follow-up surveys allows us to examine both near-term and long-term outcomes, as students leave the collegiate environment and begin their transition into their adult roles. Since similar questions were asked on each of these three surveys, by comparing responses from these individuals on the pre-college and one of the post-college surveys, it is possible to examine the degree to which students changed since entry in college. By comparing these patterns of change across different institutional characteristics (after first controlling for relevant student characteristics), it is possible to generate a picture of how these institutional characteristics, and specifically campus diversity, affect student outcomes.

The outcomes reflect two ways of capturing growth and change among college students. For about half of the outcomes measured in CIRP four and nine year data, students were asked to report at college entry (during the first orientation days at college) their aspirations, self-rating of abilities compared to the average person their age, and importance of personal goals in the areas of engagement and motivation, citizenship engagement, and racial/cultural engagement. These self-assessments were reported again at four year and nine year survey administrations, allowing the assessment of change or growth of self-assessment in relation to experiences related to diversity in college. A second way of assessing growth was to ask students "how much have you grown since entering college," to capture the key areas where students personally felt significant change had occurred. It is important to note that self-reports of learning outcomes are correlated with traditional measures of achievement (e.g., with College BASE, a criterion-referenced achievement test, and GRE scores for the limited sample of students who took these tests in CIRP -- see Pike, 1993, and Anaya, 1992), and self-reported growth items correspond with growth among undergraduates reported by faculty within institutions (Hurtado, et al., 1998).

The CIRP survey program includes a national sample of all types of institutions, though for this set of analyses we limited our investigation to certain types of institutions. Specifically, I excluded historically Black colleges and universities as well as community colleges from the analysis since I believe that both campus diversity issues and educational processes differ dramatically from those found at predominantly white four-year colleges and universities. With this restriction in place, the CIRP data base I analyzed contained information collected from 9,316 students who first enrolled in college in 1985 at one of 184 colleges and universities.

I examined 56 outcome measures as part of this analysis. These measures were divided into four categories: learning outcomes and democracy outcomes, measured both near-term (four years after college entry) and long-term (nine-years after college entry), and are described in the section on Measures below, as are the specific student background and institutional characteristics used in the analyses. The analysis of each dependent variable was repeated four times using the same standard set of statistical control variables, but varying in terms of the combination of campus diversity measures being used. Specifically, each CIRP analysis contained the measure of classroom diversity available in the CIRP Study (i.e., enrolling in an ethnic studies course), and one measure of interactional diversity (i.e., participating in a racial/cultural awareness workshop, or discussing racial issues, or socializing with someone from a different racial/ethnic background, or having a close friend of a different racial/ethnic background during college). In this way, I generated a portrait of how each of the aspects of campus diversity relate to each of the near- and long-term learning and democracy outcome measures. My intention here is to investigate the effects of different types of interactional diversity over and above those that could be achieved solely through curricular efforts. This approach was based on previous research which revealed that campuses need actively to engage students in diversity contact when they have no previous experience. Students cannot simply learn about difference in theoretical abstraction; they must engage with each other on diverse campuses to realize the full potential educational benefits.

The Michigan student data come from the Michigan Student Study, an intensive investigation of the undergraduate class of 1994. The study was developed and carried out by the Office of Minority Affairs (now the Office of Academic and Multicultural Initiatives) in collaboration with faculty and students from the Center for the Study of Higher Education and the Department of Psychology.

The purpose of the study was to increase understanding of the impact of racial/ethnic diversity at the University of Michigan on all groups of Michigan undergraduates. In addition to the insights that the study has provided the university community, the data from this study have been the source of articles in academic journals, papers at national conferences, and seven doctoral dissertations.

The specific data base used for this Report comes from the major component of the Michigan Student Study, the longitudinal series of surveys of the undergraduate class of 1994. All students received a survey at point of entrance to the University in September of 1990. All students of color, and a large representative sample of white students were followed up in surveys at the end of their first year, second year, and senior year of college. The data analyses presented in my statement are based on the responses of 187 African American and 1134 white students. The data on Latino students were not analyzed because their numbers at Michigan are not large enough to permit reliable results from the multivariate analyses we have undertaken.

I examined ten outcome measures in the analysis of the Michigan Student Study data. They are divided into the same two main categories as in the CIRP analyses (learning outcomes and democracy outcomes measured four years after college entrance). Most of the specific measures differ from those of the CIRP study. These measures are described in the section on Measures

below, as are the student background characteristics and measures of students' campus experiences with diversity that are used in my analyses.

My data analysis strategy is similar to the one presented for the analysis of the CIRP data. The MSS analyses differ in two general ways. First, the CIRP analyses are based on single-item measures of student characteristics, as one of the strengths of the CIRP is that it asks students to provide a wide variety of information of themselves, and as a result does not ask very many questions with overlapping content. In contrast, one of the strengths of the MSS data is that it was designed to collect more in depth data on fewer topics. As a result, in a number of instances I drew upon this strength by combining responses to related questions to create indices of various constructs. These indices reduce measurement error inherent in any individual question, which helps improve the quality of any analysis based on them. Second, the MSS data base does not contain information from students nine years after college entry, so our analysis is focused solely on near-term learning and democracy outcomes which were measured four years after college entry. With these exceptions, the MSS and CIRP analyses are designed to be as parallel as possible.

Separate regressions were run for each of our 10 dependent variables (4 learning outcomes and 6 democracy outcomes). The predictor variables in each of these regressions included the same set of statistical control variables (i.e., student background characteristics), the entrance level measure of the outcome (when the same question was asked in the senior and entrance survey), and the same measure of classroom diversity. This measure of classroom diversity is an index combining the exposure of students to diversity content in their classrooms and their perceptions of how much impact some course had on their views on diversity. The other predictors in the regressions vary in that each regression introduces a different measure of interactional diversity (for example, number of best friends of a different race or

ethnicity, quality of interaction with diverse others, number of multiethnic campus events attended). As with the CIRP analyses, the intent was to investigate the effect of each interactional diversity measure on each learning and democracy outcome, over and beyond the effect that could have been achieved just from classroom diversity

The IRGCC Study

An evaluation study followed for four years the undergraduate entrants to the University in 1990 who as first-year students took an introductory course in the Intergroup Relations, Community, and Conflict Program. This course covered the history of group experiences in the United States, a contemporary analysis of group inequalities in the economic, educational, and political arenas, and an analysis of political issues and policies (such as immigration, bilingual education, affirmative action, sexual harassment, Middle East peace initiatives) that are contested by various groups in contemporary United States. The course also covered theories of conflict and conflict management. All students in the course attended lectures, participated in discussion groups, wrote papers and exams, and took part in a ten-week dialogue group.

The explicit goals of the dialogues within the context of this course were to: (1) help students discern and understand differences and similarities between the groups' viewpoints on contested issues, (2) examine differences in viewpoint within each of the two groups in the dialogue, (3) help students identify and negotiate conflicts that arise in the dialogue, and 4) challenge the groups to find a basis for coalition and joint action on a specific issue. The IRGCC Program also offers advanced courses in intergroup relations and training courses in facilitating intergroup dialogues, which some first-year students in he evaluation study subsequently took.

Of these various goals, IRGCC's emphasis on intergroup understanding deserves special note. Yeakley (1998) points out that most intergroup contact studies have stressed the impact of contact on liking people from other groups, developing positive evaluations of outgroup members, and decreasing stereotyping among groups. The IRGCC Program does not minimize the importance of these outcomes, but it puts priority on helping students understand the perspectives of other groups. When a dialogue is completed, students from different groups may or may not like each other; they may still disagree with each other. But when a dialogue is successful, however, students understand why others feel and think differently about a specific issue. One student put it this way: "At first, it was like 'you're either with me or you're not.' And, you know, half way through, it was like 'oh, you're a person and I can see from what you've said *exactly* how you got to *feel* this way. I still disagree with it and . . . that's okay. What's important is that I can see where the other person is coming from" (Yeakley, p. 115).

The IRGCC Program participants were measured as part of the longitudinal Michigan Student Study at the time they entered the University of Michigan. These baseline measures were taken before they enrolled in the first-year course. They were measured again at the end of the course, and again four years later at time of graduation.

The evaluation was designed to give a picture of program *effect*. An equal number of first-year students who did not take the course were measured with the same questionnaires at the same times (at entrance, at the time the participants completed the IRGCC course, and at time of graduation) that the participants were measured. The non-participant group of comparison students were chosen to match the participants as to in-state and out-of-state pre-college residency, first-year residence hall at Michigan, ethnicity/race, and gender. Selection was done randomly within these categories from students who had completed

entrance questionnaires in the Michigan Student Study.

This study provides a unique opportunity to evaluate the long-term impact of a particular diversity experience that was offered to students at the crucial stage of the first year in college -- a time when discontinuity from the home background and uncertainty about the expectations of the University of Michigan are likely to be maximally influential in the lives of students. It is a period that, following Ruble (1994), I have conceived of as a time of "construction" -- a period before students accommodate to Michigan's diversity and complexity, some retreating to familiarity in peer groups that replicate the home background, and others participating in multiple and diverse peer groups on the campus.

I hypothesized that the IRGCC Program would foster both learning and democracy outcomes. To test this hypothesis, the senior questionnaires were constructed to assess complex thinking, perspective taking, appreciation of socio-historical causation, acceptance of conflict as a normal aspect of social life, mutuality of interest and engagement in one's own and other groups, interest in politics, and citizen participation on the campus. As indicated in Tables 11 and 12, the analyses indicate that all of these outcomes were greater for students who participated in the IRGCC Program than for those who did not. Of course, a program as visibly focused on groups as the IRGCC Program might be expected to attract students who as first-year students already had higher scores on these cognitive measures before taking the course. Thus,

it is important to check if the senior year differences persisted when initial scores (made available by the Michigan Student Study) were statistically controlled. Our analyses indicated that these differences were still statistically reliable, and that participation in the IRGCC Program had a genuine effect on complex thinking, perspective taking, and socio-historical thinking.

One of the democracy outcomes, the mutuality of interest and activity in one's own and other groups, might be particularly noted. The IRGCC study asked students a series of questions about their involvement in their own groups, along with parallel questions about their involvement with other groups. Responses would permit assessment of the extent to which the IRGCC Program had encouraged greater involvement in both, and thus had fostered a mutuality that is important in democracy. One of the charges against diversity and multicultural programs is that they heighten difference, keep people divided from each other, and destroy the unity on which democracy depends. This program asks students to consider multiple perspectives – the perspectives of their own group and the perspectives of other groups. They are challenged to discern the similarities between groups and the differences within groups, as well as the sometimes more obvious differences between groups. They have to find some plan of potential common action, although in the time limits of the semester they do not actually carry out the activity. In these ways, they are encouraged to develop a sense of mutuality and reciprocality.

MEASURES

CIRP Analysis Measures

Student background characteristics

>   SAT composite score (Verbal + Math)
>   High school grade point average (self-reported)
>   Ethnic diversity of high school classmates
>   Ethnic diversity of neighbors where you grew up
>   Student's gender

Campus experiences

>   Classroom diversity

>   >   Enrolled in an ethnic studies course during college

>   Informal interactional diversity

>   >   Discussed racial issues
>   >   Attend a racial/cultural awareness workshop
>   >   Socialized with someone from a different racial/ethnic group
>   >   Proportion of close friends in college who were of
>   >   >   respondent's race/ethnicity (reverse)

Institutional characteristics

>   Structural diversity

>   >   Percentage of undergraduates at the respondent's college who were students of color (African American, Asian, Hispanic, or Native American)

>   Selectivity (Mean SAT Composite score of the entering freshman class)

>   Type (University versus four-year college)

>   Control (Private versus public)

>   Institutional diversity emphasis (aggregate measure of student perceptions at each college in the data base concerning the degree to which the institution emphasizes diversity as a goal)

>   Faculty diversity emphasis (aggregate measure of student perceptions at each college in the data base concerning the degree to which faculty incorporate diversity issues into the curriculum)

Four year learning outcomes

Engagement and motivation

Graduate degree aspiration in 1989*

Self-rating of abilities compared to average person your age:

Drive to achieve*
Self-confidence (intellectual)*

Importance to you personally:

Write original works (poems, novels, short stories, etc.)*
Create artistic works (painting, sculptures, decorating, etc.)*

Change since entering college in preparation for graduate/professional school (self-reported)

Intellectual and academic skills

Average undergraduate grade point average (self-reported)

Change in knowledge/skills since entering college (self-reported):

General knowledge
Analytical and problem-solving skills
Ability to think critically
Writing skills
Foreign language skills

Self-rating of abilities compared to average person your age:

Academic ability*
Writing *
Listening ability

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<u>Nine year learning outcomes</u>

Engagement and motivation

Self-rating of abilities compared to average person your age:

Drive to achieve*
Self-confidence (intellectual)*

Importance to you personally:

Write original works (poems, novels, short stories, etc.)*
Create artistic works (painting, sculptures, decorating, etc.)*

Intellectual and academic skills

Average undergraduate grade point average (self-reported)

Self-rating of abilities compared to average person your age:

Academic ability*
Writing *
Listening ability

Valued skills

Importance in your life today:

General knowledge
Analytical and problem-solving skills
Ability to think critically
Writing skills
Foreign language skills

<u>Four year democracy outcomes</u>

Citizenship engagement

Importance to you personally:

Influencing the political structure*
Influencing social values*
Helping others in difficulty*
Being involved in programs to clean up the environment*
Participating in a community action program*

Racial/cultural engagement

Importance to you personally:

Promoting racial understanding*

Change in knowledge/skills since entering college (self-report):

Cultural awareness and appreciation
Acceptance of persons from different races/cultures

Nine year democracy outcomes

Citizenship engagement

Hours per week spent on volunteer work/community service

Number of community service activities participated in

Importance of reasons for participating in community service/volunteer activities:

To give me a chance to work with people different from me
To influence society as a whole
To improve my community
To fulfill my social responsibility

Importance to you personally:

Influencing the political structure *
Influencing social values*
Helping others in difficulty *
Being involved in programs to clean up the environment*
Participating in a community action program*

Racial/cultural engagement

Importance to you personally:

Promoting racial understanding*

Change in knowledge/skills since entering college (self-report):

Cultural awareness and appreciation

Acceptance of persons from different races/cultures

Skills and experiences related to living in a diverse society

How well did your undergraduate education prepare you for:

Graduate school
Your current or most recent job

How frequently did you do the following during the past year:

Discussed racial/ethnic issues
Socialized with someone of another racial/ethnic group

How many people in the following groups are of your race/ethnicity (reverse):

Current close friends
Current neighbors
Current work associates

Michigan Student Study Measures

Student background characteristics

SAT/ACT score
High school grade point average
Student's gender
Racial composition of neighborhood where grew up
Racial composition of high school

Campus experiences

Classroom diversity

Classroom diversity index:

Extent of exposure in classes to information/activities devoted to understanding other racial/ethnic groups and inter-racial/ethnic relationships.

Had a course that had important impact on student's views of racial/ethnic diversity and multiculturalism.

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Informal interactional diversity

Positive/personal interaction index:

(After the student has identified the racial/ethnic group he/she interacted with most at Michigan) How much student and members of this group:

Had meaningful, and honest discussions about race and ethnic relations.

Shared personal feelings and problems.

Negative group interaction index:

(After the student has identified the racial/ethnic group he/she interacted with most at Michigan) How much student and members of this group:

Had tense, somewhat hostile interactions.

Had guarded, cautious interactions.

Amount of interaction on campus with:

Students of color (index summing interactions with African American, Asian American, and Hispanic/Latino students).
African American students
White students

Number of "six closest friends at Michigan" of a different racial/ethnic background.

Extent of involvement at Michigan with groups and activities reflecting other cultural/ethnic backgrounds.

Participation in dialogue groups sponsored by the Program on Intergroup Relations and Conflict.

Number of five multiethnic campus events attended (Hispanic Heritage Month, Native American Month events or Annual Pow Wow, Asian American Awareness Week events, Martin Luther King Jr. Symposium events, Black History Month events).

Learning outcomes

    Active thinking

        Complex thinking index:*

            Enjoy analyzing reasons for behavior
            Prefer simple rather than complex explanations
            (reverse)
            Don't enjoy discussions of causes of behavior
            (reverse)
            Take people's behavior at face value (reverse)

        Social historical thinking index:*

            Think about influence of society on other people
            Causes of behavior often form chain that goes back
            in time
            Think about influence of society on my behavior and
            personality

    Engagement and motivation

        Intellectual engagement index:

            Gained broad, intellectually exciting education at
            Michigan
            Satisfaction with intellectual quality and challenge
            of classes

        Expectation of going to graduate or professional school

Democracy outcomes

    Compatibility of differences

        Perceived similarity on "important values in life -- like
        values about work and family" with:*

            African Americans
            Asian Americans
            Hispanic/Latinos
            White Americans

    Non-divisiveness of group differences index:

        University's focus on diversity puts too much
        emphasis on group differences (reverse)

University's commitment to diversity fosters more intergroup division than understanding (reverse)

University's emphasis on diversity means I can't talk honestly about ethnic, racial, and gender issues (reverse)

Emphasis on diversity makes it hard for me to be myself (reverse)

Racial/cultural engagement

Have learned a great deal about contributions to American society of other racial/ethnic groups.

Citizenship engagement

Perspective taking index:*

Try to look at everybody's side of a disagreement

Find it difficult to see things from the "other person's" point of view (reverse)

Don't waste much time listening to other people's arguments (reverse)

Two sides to every question and try to look at them both.

Intergroup Relations, Community, Conflict Program Measures

Student background characteristics

In-state/out-of-state residence
Gender
Race/ethnicity
Specific campus residence hall

Campus experience

Participated as a first-year student in the Intergroup Relations, Community, and Conflict Program (yes/no)

<u>Learning outcomes</u>

Active thinking

Complex-thinking index:* same as in the Michigan Student
Study

Social-historical thinking index:* same as in the Michigan
Student Study

<u>Democracy outcomes</u>

Citizenship engagement

Perspective taking index*: same as in the Michigan Student
Study

Interest in politics index:

Students who talk a lot about social issues turn me
off (reverse)
I do not enjoy getting into discussions about
political events (reverse)
I do not try hard to keep up with the current events
(reverse)
Thinking about how this country has changed over
the last several years and will change in the
future is of little interest to me (reverse)
I hardly spend any time thinking about the roles of
men and women in society (reverse)

Interest in group inequalities index:

I enjoy talking with other people about the reasons
for and possible solutions to poverty
I would probably find a television show on poverty
in the United States to be interesting
Thinking about the causes of poverty is not my idea
of a good way to spend time (reverse)
I often read newspaper or magazine articles on the
plight of the poor
I often think about the amount of power people in
different segments of society have

While in college, extent of involvement in :

Campus political activities
Community service

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Student government

Anticipated commitment to community/politics after college:

Personal importance of:

Influencing the political structure
Helping my group or community
Helping to promote racial/ethnic understanding

Compatibility of differences

Mutuality of experience in own group and other groups

Degree of agreement that:

"Since coming to college, I have enjoyed learning about the experiences and perspectives of other groups;" and "Since coming to college, I have thought more about my memberships in different groups"

Degree of agreement that:

"Since coming to college, I have learned a great deal about other racial/ethnic groups and their contributions to American society; and "Since coming to college, I have gained greater knowledge of my racial/ethnic group's contributions to American society"

Degree of involvement with:

"Groups and activities reflecting other cultural and ethnic backgrounds;" and "Groups and activities reflecting my own cultural and ethnic background"

Non-divisiveness of group differences index: same as in the Michigan Student Study

Positive view of intergroup conflict index:

Intergroup conflict can have positive consequences
Conflict and disagreements in classroom discussions enrich the learning process

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Conflict is healthy in a democracy
Conflict is a normal part of life

Negative view of intergroup conflict index:

Conflict between groups makes it difficult for them
to communicate with each other
Conflict rarely has constructive consequences
I am afraid of conflicts when discussing social
issues
The best thing to do is to avoid conflict

*These outcome questions were also asked in the entrance questionnaire. In the analyses of these outcomes, the responses to the entrance questions were statistically controlled, in order to take account of possible selection bias.

APPENDIX D

REGRESSION SUMMARY DETAILS

This Appendix provides detailed summary information from the regression analyses conducted on the Cooperative Institutional Research Program (CIRP) and Michigan Student Study (MSS) data bases. (The IGRCC results were analyzed using Analysis of Variance, and do not lend themselves to this presentation format.)

Regressions based on CIRP data

Four separate regression models were developed for each outcome considered in the CIRP data base, with the models differing only by the specific informal interaction measure considered in combination with the classroom diversity measure. For each of the four models, four columns of numerical information are presented. The first column, labeled r, indicates the raw (or zero-order) correlation between each of the predictor variables and the outcome measure, and is typically the upper-bound estimate of the independent effect that each diversity measure has on the outcome measure. Columns 2 (labeled Step 1), 3 (labeled Step 2), and 4 (labeled Step 3) indicate whether or not the predictor variable is still a significant predictor of the outcome variable after controlling for other variables in the model that might also explain the relationship between diversity experiences and student outcomes. For each of the analyses, Step 1 controls (or removes) the possible effects of student background characteristics and (where available) a student's response to the outcome measure upon entry into college; Step 2 adds the diversity experience measures to the prediction equation; Step 3 adds institutional characteristics such as structural diversity, institutional selectivity, and type (such as public versus private, four-year college versus university). Appendix C provides a list of measures for each of the steps of the analysis.

When a diversity experience measure remains statistically significant after controlling for all the other variables in the analysis, this provides strong evidence of the importance of this variable in explaining the relevant outcomes, as all of the competing explanations were given the better chance to explain the finding.

Given differences in sample sizes across racial/ethnic group, effects were judged as significant for White students at the $p < .05$ level (Table D1), while the criterion of $p < .10$ was used for the much smaller African American and Latino samples (Tables D2 and D3, respectively). Significant positive effects are indicated by a square symbol (■), while significant negative effects are indicated by a diamond symbol (✦). Nonsignificant findings are not shown.

Regressions based on MSS data

Eight separate regression models were developed for each outcome considered in the MSS data base, with the models differing only by the specific informal interaction measure considered in combination with the classroom diversity measure. The format of the summary tables that follow is similar to that used for the CIRP analyses, but differs slightly due to differences in the analytical approach used.

For each of the eight models, three columns of numerical information are presented. The first column, labeled r, indicates the raw (or zero-order) correlation between each of the predictor variables and the outcome measure, and is typically the upper-

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bound estimate of the independent effect that each diversity measure has on the outcome measure. Columns 2 (labeled Step 1) and 3 (labeled Step 2) indicate whether or not the predictor variable is still a significant predictor of the outcome variable after controlling for other variables in the model that might also explain the relationship between diversity experiences and student outcomes. For each of the analyses, Step 1 controls (or removes) the possible effects of student background characteristics and (where available) a student's response to the outcome measure upon entry into college; Step 2 adds the diversity experience measures to the prediction equation. (The Step 3 column provided for the CIRP data is unavailable for the MSS analysis since it is based on data from a single institution, and as a result institutional characteristics do not vary). As before, when a

diversity experience measure remains statistically significant after controlling for all the other variables in the analysis, this provides strong evidence of the importance of this variable in explaining the relevant outcomes, as all of the competing explanations were given the better chance to explain the finding.

Given differences in sample sizes across racial/ethnic group, effects were judged as significant for White students at the $p < .05$ level (Table D4), while the criterion of $p < .10$ was used for the much smaller African American sample (Tables D5). Significant positive effects are indicated by a square symbol (■), while significant negative effects are indicated by a diamond symbol (✤). Nonsignificant findings are not shown.

Table D1
Detailed regression summary tables: CIRP data base, White students

Significant positive effects:	■	
Significant negative effects:	❖	

Outcome variable

Four-year learning outcomes: Engagement and motivation

Graduate degree aspirations

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.097	■	■	■	.096	■	■	■	.096	■	■	■	.097	■	■	■
Informal interaction (model)	.162	■	■	■	.170	■	■	■	.143	■	■	■	.043	■	■	■

Drive to achieve

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	-.005				-.007				-.007				-.005			
Informal interaction (model)	.062	■	■	■	.038				.076	■	■	■	.037			

Self-confidence (intellectual)

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.031	■	■	■	.030	■			.030	■	■	■	.030	■	■	■
Informal interaction (model)	.049	■			.119	■	■	■	.077	■	■	■	.031			

Write original works (poems, novels, short stories, etc.)

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.107	■	■	■	.108	■	■	■	.108	■	■	■	.107	■	■	■
Informal interaction (model)	.152	■	■	■	.202	■	■	■	.094	■	■	■	.055	■	■	■

Create artistic works (painting, sculpture, decorating, etc.)

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.100	■	■	■	.099	■	■	■	.098	■	■	■	.100	■	■	■
Informal interaction (model)	.109	■	■	■	.137	■	■	■	.089	■	■	■	.072	■	■	■

Preparation for graduate/professional school

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.054	■	■		.055	■	■		.055	■	■		.055	■	■	■
Informal interaction (model)	.098	■	■	■	.142	■	■	■	.121	■	■	■	-.001			

Four-year learning outcomes: Intellectual and academic skills

Average undergraduate grade point average (self-reported)

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.018				.016				.016				.017			
Informal interaction (model)	.068	■			.098	■	■	■	.037				-.037	❖	❖	

General knowledge

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.078	■	■	■	.079	■	■	■	.079	■	■	■	.078	■	■	■
Informal interaction (model)	.098	■	■	■	.143	■	■	■	.114	■	■	■	-.004			

Academic ability

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.023	■	■	■	.022	■			.022	■	■		.022	■	■	■
Informal interaction (model)	.054				.131	■	■	■	.095	■	■		.007			

Writing

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.102	■	■	■	.100	■	■	■	.100	■	■	■	.101	■	■	■
Informal interaction (model)	.107	■	■	■	.194	■	■	■	.110	■	■	■	.009			

Listening ability

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.094	■	■	■	.093	■	■	■	.094	■	■	■	.092	■	■	■
Informal interaction (model)	.123	■	■	■	.135	■	■	■	.132	■	■	■	.036	■	■	■

Analytical and problem-solving skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.012				.013				.013				.013			
Informal interaction (model)	.037	■	■		.058	■	■	■	.083	■	■	■	.002			

Ability to think critically

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.074	■	■	■	.074	■	■		.074	■	■	■	.073	■	■	■
Informal interaction (model)	.101	■	■	■	.166	■	■	■	.105	■	■	■	.019			

Writing skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.112	■	■	■	.113	■	■	■	.114	■	■	■	.111	■	■	■
Informal interaction (model)	.133	■	■	■	.184	■	■	■	.079	■	■	■	.018			

Foreign language skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.142	■	■	■	.144	■	■	■	.144	■	■	■	.142	■	■	■
Informal interaction (model)	.099	■	■	■	.117	■	■	■	.090	■	■	■	.024	■		

Nine-year learning outcomes: Engagement and motivation

Drive to achieve

Predictors	Workshop model r	Step 1	Step 2	Step 3	Discussion model r	Step 1	Step 2	Step 3	Socializing model r	Step 1	Step 2	Step 3	Close friends in college were diverse model r	Step 1	Step 2	Step 3
Classroom	-.001				.000				.000				.000			
Informal interaction (model)	.056	■	■	■	.039	■	■		.083	■	■	■	.042			

Self-confidence (intellectual)

Predictors	Workshop model r	Step 1	Step 2	Step 3	Discussion model r	Step 1	Step 2	Step 3	Socializing model r	Step 1	Step 2	Step 3	Close friends in college were diverse model r	Step 1	Step 2	Step 3
Classroom	.030	■	■	■	.029	■			.030	■	■		.030	■	■	■
Informal interaction (model)	.045	■			.103	■	■	■	.084	■	■	■	.046			

Write original works (poems, novels, short stories, etc.)

Predictors	Workshop model r	Step 1	Step 2	Step 3	Discussion model r	Step 1	Step 2	Step 3	Socializing model r	Step 1	Step 2	Step 3	Close friends in college were diverse model r	Step 1	Step 2	Step 3
Classroom	.116	■	■	■	.116	■	■	■	.116	■	■	■	.115	■	■	■
Informal interaction (model)	.132	■	■	■	.183	■	■	■	.072	■	■		.071	■	■	■

Create artistic works (painting, sculpture, decorating, etc.)

Predictors	Workshop model r	Step 1	Step 2	Step 3	Discussion model r	Step 1	Step 2	Step 3	Socializing model r	Step 1	Step 2	Step 3	Close friends in college were diverse model r	Step 1	Step 2	Step 3
Classroom	.095	■	■	■	.095	■	■	■	.095	■	■	■	.094	■	■	■
Informal interaction (model)	.104	■	■	■	.123	■	■	■	.069	■	■	■	.063	■	■	■

Nine-year learning outcomes: Intellectual and academic skills

Academic ability

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.017	■			.017	■			.017	■			.017	■	■	
Informal interaction (model)	.060				.137	■	■	■	.113	■	■	■	.026			

Writing

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.085	■	■	■	.085	■	■	■	.085	■	■	■	.084	■	■	■
Informal interaction (model)	.103	■	■	■	.184	■	■	■	.106	■	■	■	.006			

Listening ability

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.044	■			.042	■			.042	■			.045	■	■	
Informal interaction (model)	.077	■	■	■	.087	■	■	■	.093	■	■	■	.025			

Nine-year learning outcomes: Valued skills

General knowledge

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.046	■	■	■	.047	■	■		.047	■	■	■	.046	■	■	■
Informal interaction (model)	.019	■			.067	■	■	■	.047	■	■	■	.007			

Analytical and problem-solving skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.005				.005				.005				.005			
Informal interaction (model)	.028				.074	■	■	■	.071	■	■	■	.013			

Ability to think critically

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.079	■	■	■	.080	■	■	■	.080	■	■	■	.079	■	■	■
Informal interaction (model)	.100	■	■	■	.166	■	■	■	.110	■	■	■	.036			

Writing skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.102	■	■	■	.102	■	■	■	.103	■	■	■	.102	■	■	■
Informal interaction (model)	.117	■	■	■	.170	■	■	■	.071	■	■		.016			

Foreign language skills

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.138	■	■	■	.138	■	■	■	.137	■	■	■	.139	■	■	■
Informal interaction (model)	.112	■	■	■	.146	■	■	■	.109	■	■	■	.099	■	■	■

Four-year democracy outcomes: Citizenship engagement

Influencing the political structure

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.167	■	■	■	.169	■	■	■	.169	■	■	■	.168	■	■	■
Informal interaction (model)	.208	■	■	■	.300	■	■	■	.115	■	■	■	.064	■	■	

Influencing social values

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.176	■	■	■	.177	■	■	■	.177	■	■	■	.176	■	■	■
Informal interaction (model)	.237	■	■	■	.288	■	■	■	.137	■	■	■	.030	■		

Helping others in difficulty

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.129	■	■	■	.130	■	■	■	.130	■	■	■	.129	■	■	■
Informal interaction (model)	.157	■	■	■	.191	■	■	■	.140	■	■	■	.034			

Being involved in programs to clean up the environment

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.103	■	■	■	.104	■	■	■	.104	■	■	■	.103	■	■	■
Informal interaction (model)	.167	■	■	■	.214	■	■	■	.102	■	■	■	.046	■		

Participating in a community action program

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.194	■	■	■	.195	■	■	■	.196	■	■	■	.194	■	■	■
Informal interaction (model)	.268	■	■	■	.304	■	■	■	.169	■	■	■	.037			

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Four-year democracy outcomes: Racial/cultural engagement

Promoting racial understanding

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.273	■	■	■	.273	■	■	■	.273	■	■	■	.273	■	■	■
Informal interaction (model)	.339	■	■	■	.453	■	■	■	.276	■	■	■	.117	■	■	■

Cultural awareness and appreciation

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.210	■	■	■	.209	■	■	■	.209	■	■	■	.210	■	■	■
Informal interaction (model)	.246	■	■	■	.299	■	■	■	.184	■	■	■	.042	■	■	■

Acceptance of persons from different races/cultures

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.135	■	■	■	.136	■	■	■	.135	■	■	■	.135	■	■	■
Informal interaction (model)	.188	■	■	■	.207	■	■	■	.178	■	■	■	.042	■	■	■

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